Cost by summing the 12 monthly Energy Cost Budgets. Each monthly Energy Cost Budget is the product of the monthly Building Energy Consumption of each type of energy used multiplied by the monthly Energy Cost per unit of energy for each type of energy used.

502.2 The Energy Cost Budget shall be determined in accordance with Equation 502.2.a as follows:

$$ECB = ECB_{jan} + \ldots ECB_{m} + \ldots + ECB_{dec} \qquad \text{(Equation 502.2.a)}$$

Based on:

$$ECB_{m} = BECON_{m1} 1 \times ECOS_{m1} + \ldots + BECON_{mi} \times ECOS_{mi} \qquad \text{(Equation 502.2.b)}$$

Where:

ECB = The annual Energy Cost Budget
ECB_m = The monthly Energy Cost Budget
$BECON_{mi}$ = The monthly Budget Energy Consumption of the i_{th} type of energy
$ECOS_{mi}$ = The monthly Energy Cost, per unit of the i_{th} type of energy

502.3 The monthly Energy Cost Budget shall be determined using current rate schedules or contract prices available at the building site for all types of energy purchased. These costs shall include demand charges, rate blocks, time of use rates, interruptible service rates, delivery charges, taxes, and all other applicable rates for the type, location, operation, and size of the proposed design. The monthly Budget Energy Consumption shall be calculated from the first day through the last day of each month, inclusive.

§ 434.503 Prototype building procedure.

503.1 The Prototype Building procedure shall be used for all building types listed below. For mixed-use buildings the Energy Cost Budget is derived by allocating the floor space of each building type within the floor space of the prototype building. For buildings not listed below, the Reference Building procedure of § 434.505 shall be used. Prototype buildings include:

(a) Assembly;
(b) Office (Business);
(c) Retail (Mercantile);
(d) Warehouse (Storage);
(e) School (Educational);
(f) Hotel/Motel;
(g) Restaurant;
(h) Health/Institutional; and
(i) Multi-Family.

§ 434.504 Use of the prototype building to determine the energy cost budget.

504.1 Determine the building type of the Proposed Design using the categories in subsection 503.1. Using the appropriate Prototype Building characteristics from all of the tables contained in Subpart E, the building shall be simulated using the same gross floor area and number of floors for the Prototype Building as in the Proposed Design.

504.2 The form, orientation, occupancy and use profiles for the Prototype Building shall be fixed as described in subsection 511. Envelope, lighting, other internal loads and HVAC systems and equipment shall meet the requirements of subsection 301, 401, 402, 403, and 404 and are standardized inputs.

§ 434.505 Reference building method.

505.1 The Reference Building procedure shall be used only when the Proposed Design cannot be represented by one or a combination of the Prototype Building listed in subsection 503.1 or the assumptions for the Prototype Building in Subsection 510, such as occupancy and use-profiles, do not reasonably represent the Proposed Design.

§ 434.506 Use of the reference building to determine the energy cost budget.

506.1 Each floor shall be oriented in the same manner for the Reference

Building as in the Proposed Design. The form, gross and conditioned floor areas of each floor and the number of floors shall be the same as in the Proposed Design. All other characteristics, such as lighting, envelope and HVAC systems and equipment, shall meet the requirements of subsections 301, 401, 402, 403 and 404.

§ 434.507 Calculation procedure and simulation tool.

507.1 The Prototype or Reference Buildings shall be modeled using the criteria of subsections 510 and 521. The modeling shall use a climate data set appropriate for both the site and the complexity of the energy conserving features of the design. ASHRAE Weather Year for Energy Calculations (WYEC) data or bin weather data shall be used in the absence of other appropriate data.

§ 434.508 Determination of the design energy consumption and design energy cost.

508.1 The Design Energy Consumption shall be calculated by modeling the Proposed Design using the same methods, assumptions, climate data, and simulation tool as were used to establish the Energy Cost Budget, except as explicitly stated in 509 through 534. The Design Energy Cost shall be calculated per Equation 508.1.

$$DECOS = DECOS_{jan} + \ldots DECOS_{m} \ldots . + DECOS_{dec} \qquad \text{Equation 508.1}$$

Based on:

$$DECOS_m = DECON_{ml} \times ECOS_{ml} + \ldots + DECON_{mi} \times ECOS_{mi}$$

(Equation 508.1.2)

Where:
DECOS = The annual Design Energy Cost
$DECOS_m$ = The monthly Design Energy Cost
$DECON_{mi}$ = The monthly Design Energy Consumption of the i_{th} type of energy
$ECOS_{mi}$ = The monthly Energy Cost per unit of the i_{th} type of energy

The $DECON_{mi}$ shall be calculated from the first day through the last day of the month, inclusive.

§ 434.509 Compliance.

509.1 If the Design Energy Cost is less than or equal to the Energy Cost Budget, and all of the minimum requirements of subsection 501.2 are met, the Proposed Design complies with the standards.

§ 434.510 Standard calculation procedure.

510.1 The Standard Calculation Procedure consists of methods and assumptions for calculating the Energy Cost Budget for the Prototype or Reference Building and the Design Energy Consumption and Design Energy Cost of the Proposed Design. In order to maintain consistency between the Energy Cost Budget and the Design Energy Cost, the input assumptions to be used are stated below. These inputs shall be used to determine the Energy Cost Budget and the Design Energy Consumption.

510.2 Prescribed assumptions shall be used without variation. Default assumptions shall be used unless the designer can demonstrate that a different assumption better characterizes the building's energy use over its expected life. The default assumptions shall be used in modeling both the Prototype or Reference Building and the Proposed Design, unless the designer demonstrates clear cause to modify these assumptions. Special procedures for speculative buildings are discussed in subsection 503. Shell buildings may not use subpart E.

§ 434.511 Orientation and shape.

511.1 The Prototype Building shall consist of the same number of stories, and gross and conditioned floor area as the Proposed Design, with equal area